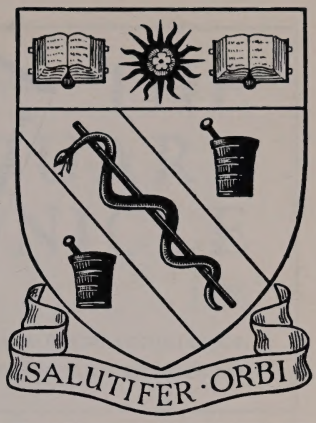
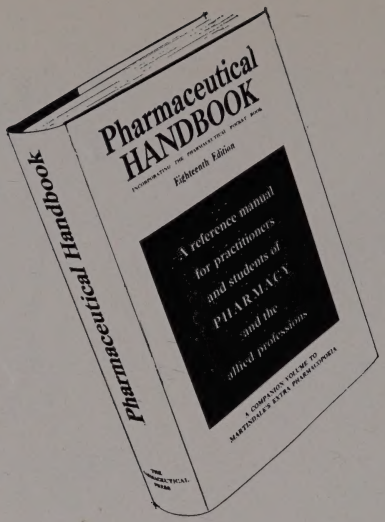


THE SQUARE CHRONICLE

74 1976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THE SQUARE CHRONICLE

No. 74 1976

THE OFFICIAL MAGAZINE OF THE SQUARE ASSOCIATION
PUBLISHED AT 29/39 BRUNSWICK SQUARE WC1N 1AX

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J. Chapman
Miss J. Bold
P. G. O'Neill

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Note from the Editor

I would like to convey my grateful thanks to all those who have helped make this publication possible particularly Dr. Sharp who has been of tremendous assistance. It is becoming increasingly difficult to obtain items for publication and I appeal to members to be more forthcoming in future and save the Chronicle from demise due to lack of support by the membership. Remember it is YOUR publication.

From our Incoming President

The demise of many voluntary organisations due either to roaring inflation or apathy of the members is a frequently observed fact of modern life even though the organisations exist for the benefit of members and are run by the members or their representatives.

The Square Association survives due, not to chance but, on the one hand to the loyalty and support of its members, and on the other to the ability of its officers to provide the functions and facilities required by its members.

The hard work of ensuring the survival of any Association always falls on the heads of a few committee members and semi-permanent officers. Only those who have undertaken such a task can be totally aware of the magnitude of the effort involved and they deserve the support of every member.

I am honoured to have been asked to serve as your President for one year and will serve the Association to the best of my ability. I occupy a transitory position and recognise that in one year I may achieve very little. I do ask every member to support the functions of the Association and thereby maintain its survival in these difficult times. It will be a pleasure to meet you in 1976.

For many members living outside London the Square Chronicle is their only link with the Association and I know they join with me in congratulating and thanking the Editor for ensuring its healthy survival in a period during which many journals have gone to the wall.

H. S. BEAN

Treasurer's Report 1974–75

Financially the Square Association has had a fairly successful year showing a nett excess of income over expenditure of £128.39. There are three main reasons for this. Firstly, the "Square Chronicle", for the first time in living memory, made a profit. For this our thanks are due to the efficiency and business acumen of our editor, Mr. Keith Tombs; also to the generosity of both Mr. Tombs and his father who waived the editorial expenses of £18.65. Secondly, the new rate of 50p for annual members joining during the calendar year in which they graduate (formerly 40p) increased the contributions of annual subscriptions by about £8. Thirdly, the Interest from our two accounts in the Abbey National Building Society was about £8 more than in the previous year.

Our annual income consists virtually of the annual subscriptions plus the above-mentioned Interest, together totalling about £210 for this last year. As members know, we are not allowed to use the Capital accruing from Life Membership subscriptions; only the Interest.

The biggest item of expenditure is Postage and Stationery. To circulate 600 members now costs £39, and we need to do this 2-3 times yearly at least. The Square Chronicle and notices of the A.G.M., Sessional Ball and Garden Party must go out to all, and in addition, about 200 annual members have to be notified about renewal of subscriptions. Hence it will come as no surprise to our members to know that we hope that the motion on the agenda tonight (to raise the Life Membership Subscription) will be carried.

I would like to thank our Honorary Auditors, Dr. R. Fleming and Dr. K. Wibberley for their efficiency and helpful auditing of the accounts.

LOUIS K. SHARP
Hon. Treasurer

Minutes of A.G.M., 1975

Minutes of the Annual General Meeting of the Square Association held at the School of Pharmacy on Thursday, 6th November, 1975.

PRESENT: Mr. M. H. Ransom (in the chair)
53 members.

APOLOGIES FOR ABSENCE: Mrs. H. E. Bailey, Miss M. Fleming, Mr. D. Lewis, Mr. E. K. Samways and Professor E. Shotton.

1. Minutes of the last Annual General Meeting

The minutes of the meeting held on Thursday, 7th November, 1974 were received and approved.

2. Matters Arising — None.

3. Presidents Report

Mr. Ransom expressed his thanks to the committee, Mrs. Lee as Secretary, Dr. Sharp as Treasurer for keeping the accounts so well, Mr. K. G. Mooney as Social Secretary and Mr. Tombs for producing the Square Chronicle.

4. Secretary's Report

The Committee has met three times during the year, each meeting being well attended and including members from the Students' Union. Dr. Sharp was thanked for the work he had done on the Addressograph and posting the notice of the A.G.M.

The Sessional Ball will be held at the Tavistock Banqueting Vault, Charing Cross Road on Saturday 6th March, 1976. A reminder will be published in the Pharmaceutical Journal.

5. Treasurer's Report

Dr. Sharp reported quite a successful year financially. The Balance Sheet was circulated. It was noted that the Square Chronicle had made a profit. Thanks were given to Mr. K. Tombs and his father who had donated editorial expenses. The great problem of notification of members is the present high cost of postage — approximately £39 for one circulation.

Mr. C. Higgs, Students' Union President, said that the Students were now charging entrance at Discos and possibly some of these proceeds could pay for the film at the Garden Party, normally paid by the Square Association. This would leave more money for postage.

Mr. Ransom thanked Mr. Higgs but assured him that, if possible, the Square Association was pleased to help the Students' Union in joint events.

Miss L. Shenton pointed out that several new members had not received notice of the A.G.M. having given their permanent home address not temporary London ones. Dr. Sharp apologised but said that due to excessive postal charges, he had only circulated addresses in London and surrounding areas. This would not happen again. Mr. N. Hopwood said that if the date of the A.G.M. was known in advance, new members could be told when they joined.

6. Election of Officers

In the absence of any other nominations, the Committee recommended the following persons to act as officers for the Session 1975-76.

President	— Dr. C. Bean (from Chelsea)
Treasurer	— Dr. L. K. Sharp
Secretary	— Miss M. L. Rubeck
Social Secretary	— Mr. P. A. Forrester
Editor Square Chronicle	— Mr. K. Tombs
Immediate Past President	— Mr. M. H. Ransom

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Students' Union Members	Committee
Mr. C. Higgs	Dr. A. Briggs
Mr. J. Chapman	Mr. I. Morland
Miss J. Bold	Miss S. Winder
Mr. P. G. O'Neill	Miss E. Mason

This was AGREED by the Meeting. Mr. Ransom handed over the chair to Dr. C. Bean.

7. Election of Auditors

Dr. R. Fleming and Dr. K. Wibberley were proposed by Dr. Briggs and elected unanimously.

8. Any other business

a) Dr. Sharp proposed that Section 5c and 5d of the constitution should be replaced.

Life Membership before 31st December £7.50 in year of graduation
after 31st December £10.00

Dr. Briggs pointed out that no change in Life Membership had been made since 1957.

Members had been notified of a possible increase and it was proposed that it should take place after 31st December, 1975. In the absence of further discussion, this was PASSED unanimously.

b) **Square Chronicle**

Mr. K. Tombs informed the meeting that advertisers had been found for the 1976 Chronicle and it was hoped that a profit would again be made. Mr. Tombs appealed for items for printing. Dr. Sharp suggested that "Through the Burette" could be reintroduced, and appealed for information.

c) Mr. K. G. Mooney proposed several votes of thanks.

1) to Mr. Ransom as retiring President,
2) to Mr. R. Banham, the past Students President for his organisation of the Ball,
3) to Mrs. Lee, the retiring Secretary, and
4) to his colleagues who had played in the Square v. Square Association Football Match.

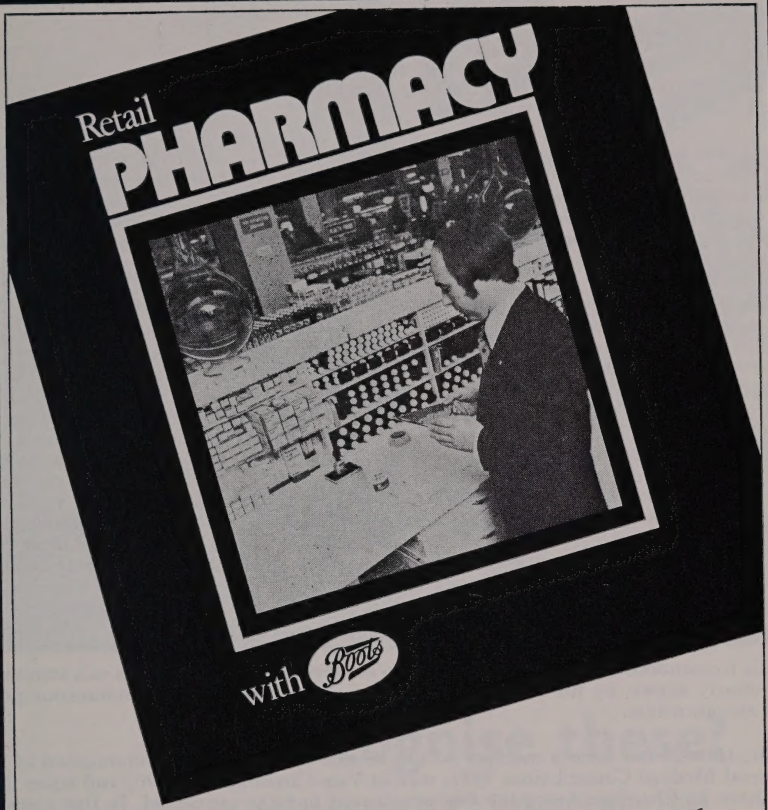
These were all carried amid applause.

d) Mr. Tombs thanked the Committee for his Get Well Card received after his car accident.

e) Mr. Hopwood asked about future Social Events. Mr. Mooney said that none were actually arranged but events would be published in the Pharmaceutical Journal.

f) The next Committee Meeting was arranged for Monday 12th January, 1976 at 6.30 p.m. in the Senior Common Room at the Square.

There being no other business, the Meeting was closed at 7.58 p.m. and was followed by a Cheese and Wine in the Senior Common Room.



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Frank Hartley, C.B.E., B.Sc., Ph.D., F.P.S., F.R.I.C., Dean.

Dr. Frank Hartley, Dean of The School of Pharmacy, University of London since 1962 is retiring from this post at the end of the present session. His distinguished career in Pharmacy, Chemistry, teaching, and as a statesman in many other fields has been both exceptional and outstanding.

He was born in Barrowfield and educated in Nelson, Lancashire where he served his apprenticeship in 1930. He took first prize in the Bell, Leverhulme and Manchester Scholarships. As a Bell scholar in the Society's School of Pharmacy, he gained silver medals in pharmaceutics, pharmaceutical chemistry and pharmacognosy in 1932. After qualifying with the Pharmaceutical Society he joined their department of chemistry as demonstrator then lecturer at their school.

His part time study of chemistry at Birkbeck College resulted in his attaining first prize in the intermediate examination and the taking of the first prize in the final degree course, graduating with first class honours in 1936. He attained his degree for research under Professor W. H. Linnell and Professor S. Sugden five years later.

In 1940 the industrial side of his career began with his appointment as chief chemist to Organon Ltd. being factory manager 1940-43, and then until 1946 he gained his administrative experience as Secretary to the Therapeutic Research Corporation working on a pooled research project developing penicillin and other antibiotics in a concerted effort with Boots Ltd., B.D.H. Ltd., Glaxo Ltd., M. & B. Ltd. and the Wellcome Foundation. At that time he was Secretary of The General Penicillin Committee of the Ministry of Supply. In 1946 he became Director of Research and Scientific Services to B.D.H. Ltd. until 1962 when he accepted an invitation to become Dean of The School of Pharmacy, University of London. He also served as an examiner in Pharmaceutical Chemistry for the Pharmaceutical Society and University of Wales for first and higher degrees.

His tremendous enthusiasm and devotion to work and his capabilities as a statesman are clearly shown by his ability to cope proficiently with many simultaneous posts and appointments.

Dr. Hartley has been a member of the British Pharmacopoeia Commission of the General Medical Council since 1953, was its Vice-Chairman 1963-70; and since 1970 has been its Chairman being the first pharmacist to be so appointed. In that capacity he has been responsible for the transfer of Operations to D.H.S.S. under the Medicines Act. He is a U.K. Delegate on the European Pharmacopoeia Commission set up by the Council of Europe (Partial Agreement Powers). He has given public service on other national government committees and boards, e.g. the Home Secretary's Poisons Board, the Dunlop Committee on the Safety of Drugs, and is a member of the Medicines Commission. A member of the National Council for Technological Awards' board of studies in faculties other than engineering since 1961, he is now Chairman of the Pharmacy Board of the Council for National Academic Awards and a member of its committee for Science and Technology. He is also a member of the University's Advisory Board in Medicine, as well as of the Council and Management Committee of the Institute of Education. He has been a co-opted member of the Senate of the University of London since 1968 and a member of the University Court since 1970. He has been Deputy Vice-Chancellor since 1973.

He has served two periods as Member of Council of The Royal Institute of Chemistry followed by a period as Vice-President and was President 1965-67.

Dr. Hartley was Chairman of the Collegiate Council 1969-1973. In addition to being Dean of The School of Pharmacy he is a Fellow of two others (University College and Birkbeck College) and is a governor of three more Schools. He was Chairman of the Board of Studies in Pharmacy, 1964-68.

Dr. Hartley has served on official enquiries including the Clothier Enquiry into Contaminated Infusion Fluids, the Rosenheim Enquiry into Prevention of Microbial Contamination of Medicinal Products and the Panel to advise the Secretary of State on the Grading of Chief Pharmacists in Teaching Hospitals.

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In 1957, he chaired the British Pharmaceutical conference at Bristol and in 1962 he was the William Pope Memorial Lecturer to the R.S.A. He is also a Liveryman of The Worshipful Society of Apothecaries of London.

The Pharmaceutical Society had no doubts as to the award of their Gold Charter Medal to Dr. Frank Hartley in 1974 for his outstanding services for the promotion of the interests of pharmacy.

This is by no means a full account of Dr. Hartley's achievements. In his retirement as Dean of the School we wish him well and no doubt many will have cause to be grateful for his guidance given as a result of the persuasive yet diplomatic way in which he exercises his duties. We hope it will be many years yet before Dr. Hartley disappears from the academic scene and the world of authoritative statesmanship in which he finds himself as the results of a brilliant career which we hope will long continue.

ED.

Obituary — Margaret Flack, B.Pharm., M.P.S.

It is with great regret that we have to record the death of MARGARET FLACK, B.Pharm., M.P.S. (née Jones), the wife of Dr. John Flack, B.Pharm., Ph.D., another student at the Square who is now Medicinal Research Co-Ordinator, Beecham's Pharmaceutical Division, Harlow. Margaret Jones graduated from the Square in 1965 having been the first woman to be elected President of the Students' Union of The School of Pharmacy, since it achieved its independent status. All who remember her successful Presidency of the Union in 1964-65 will deplore her death, at the early age of 32. She leaves two young children.

Bygone Days

I was a student during the 1920-21 session when we had so many students due to the demobilisation that we had some lectures in the evening, with some time off during the afternoon. We had some of the notable lecturers, Prof. Greenish (The Dean) on Pharmacy and materia medica (I still have his text book), Messrs. Corfield and Boyes on Chemistry, Brown on Pharmacy, Eastland on Physics, and some charming helpful lady demonstrators. We had to pay a deposit of £5 against breakages in Practical Chemistry and £3 for Physics, of which sum we received back about half.

On our first morning the Dean gave us a pep talk"'' and went on to say that he realised that the present common room would not be adequate for us, and he had suggested to the council that the Examination Hall would be more suitable. They refused at first but when the Dean said that he would take all the responsibility for our behaviour, they relented. It was a stimulating atmosphere for study, copying out and enlarging lecture notes, using that famous oval table, with the portraits of former famous people gazing down at you.

We had football matches on Saturday afternoons in the winter time. We would hire a double decker bus, and with rattles and vocal stimulation proceed via Oxford Street and Edgware Road to more playing fields at Barnet. In the summer, it was Botany rambles, with the Dean and Mr. Wallis as our mentors.

The mat: med: room was the first on the left on the Hall floor. On a long table there were four rows of boxes containing specimens of leaves, roots, fruits, rhizomes seeds, barks and balsam, which we had to recognise, and know the English and botanical names, natural order, habitat, and chief constituents, and also their main medicinal use. In those days the examination was divided into two parts, and you had to pass Part 1 before going on to Part 2. There were three subjects in each part and if you failed in one you failed in all three, but if you did reasonably well you were "referred" in that subject and could take that in three months time. I was referred in Botany (in Part 2), which I passed in the October, so was able to sign myself O. H. Marshall, M.P.S.

TPI and Plant Drugs: the work of the Tropical Products Institute

BY F. G. PEERS, M.A. AND LINDSAY G. BRANSBURY

Walking down Grays Inn Road on a wintry English day may not make you think of the Caribbean or the white beaches of Africa. But the thinking of the staff of one of the buildings you would pass will be much concerned with such far-away places. For this is the Tropical Products Institute, where, for the past 80 years, the crops and products of the tropics and sub-tropics have been constantly under surveillance.

TPI (as it is known to its friends) started life as the Scientific and Practical Department of the Imperial Institute. Its laboratories were equipped with a gift of £1,000 and Chemical Assistants were paid from a grant of £260! It has grown a bit since then, now employing 380 staff and with a budget of just over £2 million.

What is perhaps surprising is that its remit has changed so little. Below is an extract from the first issue of the Imperial Institute Journal (Vol. 1, no. 1, 1895) which describes the reasons for the Department being set up:

> ". . . for furnishing to their Authorities (the Colonies and India) reliable information regarding the industrial value of and probable demand for, such indigenous products as are not yet articles of general commerce: and, also, for supplying information calculated to lead to improvements in the . . . . . mode of collection, preparation, packing and transport of materials . . ."

The really major change occurred in 1964 when TPI became a part of the newly created Ministry of Overseas Development (ODM). Thus the Institute's work could be extended to cover all developing countries under the British Aid Programme, and was no longer confined to the Commonwealth.

TPI has come to be regarded as a world centre for the study of post-harvest aspects of plant and animal product development. It is able to establish practical co-operation with planners, scientists, engineers, extension workers and many others concerned with this subject throughout the developing world.

TPI has seven major Departments, four of which are situated in Grays Inn Road. These are the Plant Food Commodities, Animal Products and Feeds, Non-Food Commodities and Information Departments. A Marketing and Industrial Economics Department is housed in Clerkenwell Road close by. The two remaining Departments are outside London: the Storage Department (the Tropical Stored Products Centre) at Slough and the Industrial Development Department at Culham, near Abingdon.

TPI has one of the best reference libraries on tropical post-harvest agriculture and related subjects in existence, and scientists, technologists and economists from all over the world make use of its enquiry and bibliographic services. Answering enquiries is an ongoing aspect of the Institute's work; the librarian and specialist staff between them handle well over 2,000 minor enquiries a year. In addition, about 15 reports are published every year, many of them market surveys. Several periodicals are produced by the Institute, perhaps the best known being *Tropical Science*.

Apart from the provision of specialist staff for short- and long-term assignments in developing countries and the training of overseas personnel, a major part of the Institute's work is its research and development programme. The accent is on applied research, some projects arising as a result of requests from developing countries, others being formulated by the staff in anticipation of the needs of these countries. A wide variety of projects are constantly under progress in any one Section. For example, the current programme of the Toxic and Economic Constituents Section will be of particular interest to readers of *The Square Chronicle*. Some of its work is carried out in collaboration with various organisations in developing countries and in the U.K., including Schools of Pharmacy. The Section has been involved in the isola-

tion and identification of goniothalamin from the bark of swamp trees in Sarawak which has antifungal activity against human dermatophytes. Plumericin and isoplumericin which have activity against algae and dermatophytic fungi have been isolated from *Allamanda* spp. Alternative sources of steroid precursors are being investigated consequent on the recent increased demand. Sapogenins of *Cordyline* spp. and the spice "Fenugreek" have been isolated and identified, and a potential "cash crop" development of the latter as a source of diosgenin is being investigated in East Africa.

Starting from the observation in Ethiopia that berries of *Phytolacca* spp. had detergent and molluscicidal properties, active triterpenoid sapogenins have been isolated and identified and the project has been developed to the level of a potential industry for the production of molluscicides and control of bilharziasis.

The Section has acted as a clearing house for tropical plants of potential pharmaceutical interest and close ties are maintained with the Agriculture and Botany Departments of Fiji, Malaysia and the CENTO countries in this respect. Routine screening of such plants has revealed that certain lignans isolated from the barks of trees from Fiji and Sarawak are potential tranquillisers.

Continuing the long association of the Institute with researchers in the mycotoxin field we have maintained two senior officers on long term projects in Africa — one with the International Agency for Research on Cancer in Kenya and one with the Institut de Technologie Alimentaire in Dakar, Senegal. Ongoing work in the Section is concerned with

a) potential commercial detoxification procedures for aflatoxin contaminated groundnut cake;

b) other mycotoxins possibly associated with the widespread fungal damage of the 1974 maize crop in Southern Africa;

c) development of improved analytical procedures.

Other work on toxins includes the development of methods to remove the toxic/bitter principles from the crushed seeds of mafura (*Trichilea emetica*) to permit utilization of the protein-rich residue cake as a feedstuff in Tanzania.

Further information about the Institute's wide-ranging multi-disciplinary work may be obtained from the Head, Public Relations and Publicity Section, or, on pharmaceutical matters, from the Toxic and Economic Constituents Section, at 56/62 Gray's Inn Road, London WC1X 8LU.

The Chemists Christmas Eve

BY W. G. ROBERTSON (ROB)

It was dark outside and the night wind whistled through the doors of the pharmacy. It was getting towards the end of a late night Christmas Eve rota and I was just finishing off the last of the scripts, and on the point of calling Carolyn, rota "Girl Friday" . . . (this of course prior to the Sex Discrimination Act) to lock the front doors, when a last minute caller pushed through the doors and shuffled his way to one of the vacant chairs, and flopped down, muttering, as he pulled his shabby raincoat around him. Carolyn went around the counter and bent over him. "Have you got a prescription?" she asked, and from my position at the bench she seemed to be having some difficulty understanding the mumbled reply. She came to pick up the last of the scripts, and whispered, "He seems to be ill, says he hasn't eaten all day". While Carolyn saw the last of the customers out and busied herself with the front door locks, I considered the next move, perhaps a glucose drink . . . but as I hesitated there came a gentle thud as our caller slumped out of the chair and finished up as a bundle on the floor. I went towards him and calling Carolyn said, "Phone the surgery, we might be lucky enough to catch one of the doctors . . . tell him what's happening here." Toying with thoughts of fits or diabetic coma I had barely hauled him to a sitting position against the counter, when Carolyn was back. "I managed to catch Dr. John" she whispered, he says if you can get him down to the surgery right now, he'll have a look at him". As I considered this, vague apprehensions passed fleeting through my mind. If I went off to get the car, would perhaps the apparently unconscious patient make a "planned" recovery, and attempt assorted villainies in my absence. I beckoned Carolyn to the

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back of the shop. "I'll slip out the back way . . . if I drive the car through the pedestrian way at the side I'll be back before you know", and for myself I hoped this would be before he knew I'd even gone! Moments later I had successfully negotiated the side passage and was parked, mostly on the pavement, at the front, where the lighted windows of the pharmacy illumined the light flurries of snow, in an otherwise dark and empty street. Carolyn opened the door to me, "No signs of life" she started, and then seeing my look, "Oh he's all right, . . . I meant outside on the streets!". As I bent over him he was still apparently "out for the count"; momentarily I considered dragging him along the shop floor, but rather surprisingly, when I gathered him into my arms I found him unexpectedly light, and quite easy to carry. Carolyn opened the car door, and I propped him against her in the back seat. As we drove off he started to take some interest in things again, and by the time we reached the surgery he was able, and willing, to walk, at which time Dr. John then took over. He gave our "patient" a quick "going over", insisting on a complete "strip off" . . . rather like the old-time Army F.F.I., particularly when with the aid of a ball point he fastidiously lifted a certain male appendage and appeared satisfied. He came over to my rather embarrassed presence by the door. "Rather as I suspected . . . I'll bet this isn't the first time he's passed out in the "Chemists" on late duty and probably not the last. All he's after is a nice warm bed tonight, and with any luck a chance to spend Christmas Day in a hospital ward". Noting my evident discomfiture he added, "Don't feel too bad about it . . . there wasn't much else you could do, as it is I can't really claim complete *certainty*, so I'll have him admitted for "observation", I'll even have the ambulance pick him up and then we can ALL get on with the holiday".

Science of the Sea

BY SIR GEORGE DEACON, F.R.S.
formerly Director until 1971 of The National Institute of Oceanography, Witley, Surrey.

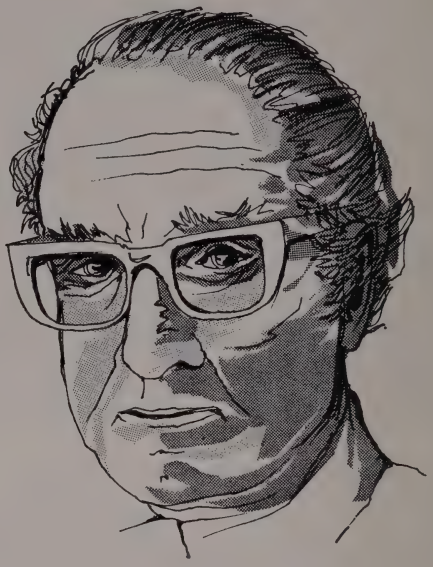
Questions about the depth of the sea, its salts, waves, tides and currents, and its abundant plant and animal life, have attracted philosophers and travellers since the earliest times; well-known men like Aristotle, Pliny, Bede, Galileo, Leonardo da Vinci, Boyle, Newton, Christopher Wren, Lavoisier and Hooke, took active interest in them. Later on governments were persuaded to help: the round-the-world voyage of scientific exploration by H.M.S. Challenger in 1872-1876 is a notable example. The most rapid growth has taken place in the present century, generally in the face of an economic threat such as the decline of a fishery, urgent wartime problems, coastal flooding, offshore technology, and now pollution. One must not forget the important work of the Royal Greenwich Observatory, the Admiralty Board of Longitude, and the Hydrographer of the Navy in making the seas safe for navigation, nor of the Navy's protection of all lawful activities, but the foundation of laboratories for detailed study of what goes on below the surface of the sea generally had to wait for a near-calamity such as the threat to overfishing that followed the introduction of powerful steam trawlers. The Discovery Investigations, which exceeded in scope those of H.M.S. Challenger, came about because the government recognised the threat to the whaling industry as early as 1913, and, among all the urgency of the first world war, had to decide to do something about it. There was soon enough science to save the fish and the whales, but success depended on international agreements for reasonable restraints such as is seldom obtainable. The scientific experience provided, nevertheless, firm foundations for the future. The *Discovery II* used for whaling research before the second world war, and for laying navigational buoys on D Day, played an active part in the growth of all aspects of oceanography in the 1950's.

Scientific approaches to such very practical problems as waves and the landing of troops on beaches showed that academic workers as well as sailors could make important contributions. They soon showed that waves travel enormous distances across the ocean linking examples of rising surf on otherwise calm beaches with earlier storms thousands of miles away. The new wave analysis and other researches with immediate applications to peacetime problems assured continuation and even expansion of the wartime facilities. It was scientists, not industry that pioneered underwater seismic exploration now used to find oil, and who gained the evidence for continental drift and the associated ideas which begin to be useful in mineral exploration, as well as revolutionising large-scale geology.

Closer understanding of the effect of the oceans on climate and weather is likely to be a promising aim. To a large extent the atmosphere gets its nature, and derives its energy, from the oceans, but although the general differences between maritime and continental climates, and the effects of warm and cold currents are realised in general terms, the information fed into computer models of the atmosphere is still of a general, smoothed, statistical nature, quite different from the patchy and variable character that it actually possesses. All the new work shows that ocean currents are much more patchy and variable than we supposed. Day to day maps of surface temperature are very different from the smoothed seasonal or monthly averages that we see in our atlases; and the depths of the ocean are not quiet and still as was supposed, but in active movement with cyclonic and anticyclonic disturbances corresponding to those of weather maps, though smaller, slower and lasting longer. There are also slow transports of water between regions of high and low density associated with high and low temperatures or evaporation which must play a significant part in regulating climate. Much of the water movement is energised by the winds, but the mechanism is very complex. The water movements play some part in determining the patterns of energy transfer that make the winds, and the movements themselves are complicated by the effect of the earth's rotation and the presence of land barriers. We must understand these questions in much greater detail before being able to apply results of scientific investigation to good advantage, whether to medium-range changes in weather or to variations in the fisheries. It is no longer much use just making observations — unless we use them to test detailed models that apply all we know about the effects of air-sea interaction, winds, waves, tides and currents to records and predictions of their variations immediately prior to the measurements.

There is still much to do even in the study of tides although we can predict them with remarkable accuracy as far ahead as we like if we have a series of observations at a nearby place and provided the prediction is not upset at the time by extreme weather conditions. Certain weather patterns produce surges large enough to cause coastal flooding, like the 1953 disaster in East Anglia, or, acting in the opposite direction, to cause unusually low water levels likely to lead to the stranding of large ships or the loss of cooling water to power stations relying on intakes close to the usual low water level. Surge predictions have to be as accurate and detailed as possible. It costs thousands of pounds to prepare London against a red warning. Large sea waves produced by submarine earthquakes may also cause coastal damage. The fact that the Chilean earthquake of 1960 killed 100 people in Japan the next day is a measure of the difficulty. The time of arrival of its waves was predicted accurately, but it is still too difficult to predict their probable heights at all points along a coast, and too little attention is likely to be paid to warnings expressed in general terms, especially if the previous ones happened to be not fully realised. We get accustomed to large bills for coastal protection, so that there is little demand for special study till some instance quite out of the ordinary occurs. There is some excuse for the cynicism that a disaster is often good for science. The Board of Trade sent out an oceanographical expedition after the sinking of the Titanic, the Torrey Canyon incident led to a lot of new work. There are plenty of possibilities for wave studies. They may, for example, stimulate research likely to lead to some improvement in the sea-keeping qualities of ships. An extra half a knot in rough water, or a modest reduction in wave damage, would mean a great deal to the shipping industry.

One of the most remarkable features of the oceans is that although regions of high evaporation tend to have high salinities and those of high precipitation lower salinities, the major constituents of sea salt are always present in the same proportions, so that for many years a careful titration of chlorinity was used to assess the total salt content, and, when the temperature was known, the density. Chemists at sea used to concentrate on the chlorinity titration, though they also determined the nutrient substances, phosphate, nitrate, silicate and oxygen, all occurring in amounts too small to have an appreciable effect on the density, but varying sufficiently to control the biological productivity of the water. In the past 20 years increasing attention has been paid to the sediments, in which the heavy metals that we value, and begin to be short of, are deposited at a greater rate than we use them, but so thinly spread over such a large area that it is going to be very difficult to exploit them. In the meantime more attention is being paid to near-coast deposits, derived from the land, and concentrated by wave and tidal activity. Next to oil and fish the winning of sand and gravel is the greatest activity, and its proper management requires careful study of the effects on fishing grounds and on the local wave patterns, changes in which may affect neighbouring coasts.



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The organic chemistry of the sea and its biochemistry have received rather little attention. A speaker at a recent conference in the U.S.A. reminded his audience that the history of the preparation of drugs from marine organisms goes back to biblical times, but of the innumerable marine organisms known or thought to contain toxic substances, few have been carefully examined, and only half a dozen or so evaluated to the stage when their chemical and biological activities are reasonably understood. A number of potentially useful drugs are being tested, including some that might have anticellular and antitumour activity.

The threat of pollution has provided fresh incentive. Coastal waters round the North Sea get an overdose of phosphates and nitrates from the land, sometimes sufficient to lead during periods of strong sunlight to unhealthy growths of dinoflagellates, and consequent toxicity in fishes, particularly in shellfish. The water is discoloured and the phenomenon known as red tide — previously known in some subtropical regions where abnormal upwelling of cold water or other water exchanges lead to unstable growth at the surface. The name entrophication is now commonly used for such over-enrichment. It is particularly serious in many American and Canadian lakes and rivers. The possibility that the threat of pollution by heavy metals might spread from coastal areas where there have been dangerous incidents has also become a fairly urgent problem. In the case of lead, atmospheric transport reaching far over the ocean has been found to be important as well as the input from rivers. An American student who found talcum powder in marine sediments was told by his supervisor to be more careful, but soon confirmed his findings. A recent scare that the growing carbon dioxide content of the atmosphere would increase the solubility of the surface water for calcium to a level that would deprive plants and animals of skeletal material, could be combated only by very specialist consideration of the activity of ions in the presence of strong electrolytes. The hydrocarbons that foul our beaches are probably not such a threat to the deep ocean, but the possible effect on vital photosynthetic activity of a thin film spreading over a calm sea area is viewed with some alarm. We know very little about the possible long-term effects of low levels of contamination. There are 300 million cubic miles of water — all moving about — and our future depends on it.

Britain's attitude towards the League of Nations and the United Nations

BY GEOFFREY WILLIAMS, M.A.,
Senior Lecturer in International Politics, Portsmouth Polytechnic.

The birth of the League of Nations owed much to British resolve and initiative. Its demise also owed much to the British failure to perceive its potential value as an instrument for peace and security. Like other nations Britain emphasised in its foreign policy the agreeable privileges of complete sovereign independence. Britain appeared to be the dominant world power in 1914. Yet the First World War exposed the somewhat uneasy foundations of British power, but even then the appearance of national greatness persisted. Britain's failure to support the League was in part a tacit recognition of her declining power.

Much of recent historical scholarship of the inter-war period has emphasised the fact that the absence of the United States from the League, and the initial reluctance of Bolshevik Russia to get involved weakened the world organisation from the start. It is however doubtful whether this interpretation is correct. Their regrettable absence from the League was **not** a fatal blow to the organisation. Both America and Russia in the interwar years were not yet the superpowers that they were to become in the 1940s. Moreover their absence from the League should not be allowed to obscure the very considerable actual and potential power of Britain and France acting together to determine more realistic policies. Of course, this Anglo-French co-operation did not emerge. Even without Anglo-French accord Britain could have given greater support to the League but probably felt over-committed to the defence of her traditional imperial interests to give her European strategy greater priority.

The British association with the League was correct, yet in reality it was cool: "nobody wished any ill to the League", wrote the Late Lord **Norwich** (Duff Cooper), "but few believed it could do any good". This view was echoed in the higher echelon of decision-making in Whitehall. The League, despite politicians' hyperbole, did not take on a central rôle in British foreign policy between the wars. Sir Robert Vansittart, Permanent Under-Secretary of State at the Foreign Office from 1930 to 1938, only visited Geneva once. Mr. Baldwin, the Prime Minister avoided going altogether. The growing British sense of dismay with the League is revealed in the account of Duff Cooper of his attendance at the Assembly of the League, which left "an impression of futility and farce".

When, after the hopeful days of the twenties, fierce storms began to sweep across the bleak landscape of European politics, the British were not be found in the forefront of a positive League programme of remedial action.

Manchuria, Abyssinia, the Rhineland and the Czechoslovak crises were the dreadful and unending milestones to total war. In none of these events did the League figure very well; as one of its founder members — perhaps even its principal architect — Britain simply faded away from involvement in collective security. What was the cause of this singular failure in policy?

The British failure to back the League for collective purposes was the result of a real apprehension of European involvements, over-confidence in British military self-sufficiency — a confidence that might perhaps have been justified if the British armed forces had been maintained on an adequate basis. But more fundamentally, Britain preferred her imperial rôle to an exacting European one; she opted for a maritime strategy at the expense of a Continental commitment (this remained the case until NATO in 1949 and the withdrawal from East of Suez in 1971 forced her to embrace a Euro-central policy). Britain decided to abandon the League after 1936. Three years later a European war broke out and five years or more later Germany — the chief menace to peace — was defeated.

Official British attitudes towards the UN were cautious but it once again sought to align itself to the requirements of collective security in the post-war period. But was history about to repeat itself?

Well, to begin with: no. HMG accepted that a form of international organisation for collective security was essential. But if the British had their way they would have preferred a regional grouping, and accordingly approached the Dunbarton Oaks and San Francisco Conferences with scepticism and reserve. The exercise was one of real-politik.

The UN Charter was drawn up during the war itself by the Victorious Alliance, which was still haunted by the experiences of the 1930s. The history of the UN falls into two distinct periods. The "first" UN was western — denominated during the cold war. Clearly the Anglo-American alliance held and the built-in Western majority— the "hidden veto" — persisted. The new organisation held no terrors for the British. It was seen to be a useful body, although not a major one, in the preservation of British global interests.

Shattering events were soon to destroy the complacency of those who expected peace to arrive. The Soviet absorption of Czechoslovakia, the Berlin blockade, the establishment of NATO, and the Korean war increased the atmosphere of suspicion, fear and bitterness which disfigured international politics. The development of a British atomic bomb was undertaken; slowly the Labour Government agreed to the dismal need to rearm.

The British depended upon the United States; the strategic interests of both countries converged.

But as far as the UN was concerned even by 1947 it was clear that article I(1) of the Charter — "to take effective collective measures for the prevention and removal of threats to the peace" — was inapplicable in the context of Soviet actions, and that articles 43-47 were, for the present, perhaps even for ever, dead.

The Anglo-American view of the UN was based on the assumption that the war-time alliance would continue to flourish and that Great Power unanimity was the corner-stone of the peace. Once those powers were in agreement the UN must succeed. This was perfectly logical but, of course, Great Power agreement did not emerge and so the UN became veto-ridden; the UN became a forum for debate and recrimination rather than an instrument for international security.

With a built-in two-thirds majority in the General Assembly and complete domination in the Security Council, the West was well able to direct the UN's development to suit its interests. This it managed to do for some time.

The Soviet position in the UN was weak; with its membership of 51 nations, a substantial majority of which were either Western nations or Latin-American states amenable to American diplomatic pressure, the Soviets were in an exposed position.

The Security Council Veto was therefore virtually the only effective weapon open to Russia in the UN to overcome its voting weakness.

From the outset of the UN, therefore, from January 1946, the Soviet Union used the veto rather like a baton to orchestrate its condemnation of certain events. She vetoed in early 1946, a resolution by the Security council which appeared to rely upon the good intentions of Britain and France to withdraw their troops from Syria and the Lebanon. Her use of the veto became habit-forming.

Yet the West had at its disposal the so-called 'hidden veto'; with eleven members of the security council, it was necessary to get seven affirmative votes to secure passage of any resolution. Four of the five permanent members (U.S., U.K., France and China), could normally be expected to be opposed to Soviet policies. They could do this without really trying. Accordingly, if those members were to abstain, it would be necessary for the Soviet Union to collect all the votes of the six non-permanent members to ensure the passage of the resolution, which was nearly impossible.

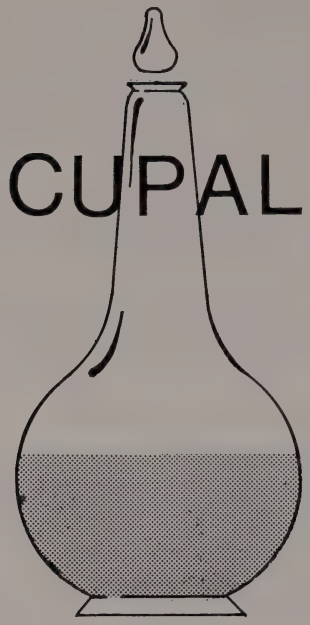
The Soviet Union stayed in the UN with the long-term calculation that things would favour them later. They did.

Britain now collided with the UN over Suez. A general British revulsion set in against what were regarded as double standards applied at the UN to Suez and Hungary. The second UN was about to emerge.

With a doubling of membership in 10 years the new UN brought new problems. The Congo crisis led to a huge UN operation which was described in one newspaper as 'this blood-stained jamboree'. Colonial questions had become the recurrent obsession of the Assembly and the West in general and Britain in particular grew disillusioned with the UN. Rhodesia was, by 1964, a further source of dismay with the assembly which insisted on a British invasion of that country in order to remove the illegal Smith régime. The British initiative over Cyprus, that had resulted in the deployment of UNFICYP, did little to allay Afro-Asian disquiet about the British position. However peacekeeping through the UN — in the Middle East for example — gradually earned British support. There was much talk of a need "to return to the principles of the Charter" which had sought "to save succeeding generations from the scourge of war". In the period 1947-1976 the scourge of war visited many parts of the world. It became British policy to strengthen the rôle of the UN in relation to peace and security.

But the basic defect in the UN as an instrument of international peace remains. As the Foreign Secretary in 1956 said when he was asked what the UN can do? to which he retorted, bleakly, "it can pass resolutions". Unfortunately more will be required of the UN than the rhetoric of the assembly.

SUPPLYING PHARMACY FOR OVER 70 YEARS



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BRITISH AND INDEPENDENT.

Pharmacology — ten years on

Many readers will doubtless remember the lecturers, with their various idiosyncrasies, more clearly than the lectures, and yet both staff and teaching have witnessed considerable changes in the past ten years. In Professor Buttle's day students began the course by learning the rudiments of physiology and biochemistry as a prelude to pharmacology proper. However, they had barely got to grips with pharmacology by the time their final year arrived when they were asked to specialise in it or else drop it altogether. This dilemma was resolved when Professor Horton arrived on the scene in 1966, when he had the opportunity of completely restructuring the third year course; the changes instituted at that time formed the basis of pharmacology as it is taught today under the able guidance of Professor Straughan, exactly forty years after the subject was first introduced into the Pharmacy course. Briefly, all students now receive a basic training in pharmacology throughout their degree course, while those wishing to specialise in their final year have the choice of two options, one clinically and the other experimentally biassed.

A variety of other factors has also influenced the way pharmacology is now taught. For instance, many of the students today have neither 'O' nor 'A' level biology and are therefore required to attend in their first term a crash course in the subject, held next door at the Royal Free. Also, the doubling of student numbers in the last ten years has meant that individual practical tuition is no longer feasible and that students must work in pairs or larger groups. Consequently practical exams have long since been superseded by written tests, often of the multiple choice type. It may be possible to reverse this trend in the future if we acquire more teaching space when the neighbouring London University Examination Laboratories become vacant, but for the time being we remain grossly overcrowded, with 50 to a class where there were once 24. For timetabling reasons the practical sessions are shorter today, lasting only 2½ hours instead of 3 hours. Not until their final year, therefore, are students able to work alone and develop individual practical skills, although today they are given more credit for their overall practical performance during the year. In this area it is probable that a large proportion of the students no longer realise their full potential compared with their counterparts of ten years ago. On the other hand, they enjoy better opportunities for expressing any hidden talent they may have for creative thinking. Tutorials are far more frequent than they used to be and, at the third year level, certain of the formal lectures have been replaced by seminars in an effort to encourage self-tuition. Practical work still involves a research project of some kind, the results of which are openly discussed.

Compared with the early sixties the curriculum today, not unnaturally, reflects modern research trends, with greater emphasis being placed on CNS pharmacology, membranes, receptors and pharmacokinetics. The curriculum is currently under review, however, and it may be in the best interests of the future Pharmacist if the third year course adopts a slightly more medical flavour. Whether or not such changes are recommended remains to be seen, but in spite of this we shall continue with our present departmental policy of constantly updating and modifying the pharmacology course according to the Pharmacists' needs.

MIKE STARR, B.PHARM., M.SC., PH.D.

Pharmaceutical Chemistry

It is just over ten years since the major change in the B.Pharm. regulations led to the present structure of the degree course. A Part I examination at the end of the second year followed by Part II at the end of the third year, after spending equal time on two subjects, was replaced by an examination at the end of each year, while the third year provided a choice of options; in the case of the Pharmaceutical Chemistry option, half the third year time is now spent on Chemistry — organic, physical and instrumental methods — a third of the time on Pharmaceutics and a sixth on Pharmacology. The University practical examination in chemistry at the end of the second year was replaced by five practical tests spread over the first two years.

The Chemistry Department is involved in teaching instrumental methods of analysis to all third year students; in addition, students specialising in Pharmaceutics and Pharmaceutical Engineering Science take physical chemistry, while those specialising in Pharmacology I, take organic chemistry.

Changes in entry requirements for the B.Pharm. degree have necessitated the introduction of short courses in Biology and Physics in addition to the course in Mathematics which has always been required.

Over the years, Pharmaceutical Chemistry has followed the general trend in science subjects towards a more physical approach. Perhaps the greatest changes have been in instrumental methods of analysis and the physical processes underlying these techniques. As a result, the classical techniques of analysis have been reduced to their bare essentials. This trend is exemplified, on the one hand, by the disappearance from the course of spots involving mixtures of inorganic compounds, and on the other hand, by the introduction of infra red spectroscopy into the first year. The content of physical chemistry itself reflects what has been described as "a more cloth cap image", an approach which is of more direct practical value to the intending pharmacist. Pharmacokinetics has replaced the quantum and statistical mechanics of earlier years. When the new third year course was first introduced ten years ago, there was no practical work in physical chemistry; now there are experiments which illustrate the theory of fast reaction kinetics, protein binding and light scattering.

The growing points in pharmacy lie in the areas between the traditional disciplines and this inevitably leads to problems in the organisation of teaching in these areas. Movements are afoot, however, to present a more unified approach in these areas that transcends departmental barriers, at least as far as the third year course is concerned.

DR. J. N. T. GILBERT, B.PHARM., PH.D., M.P.S.

B.Pharm in Burma

In 1967 I went to Burma as an adviser under the Colombo Plan Scheme, part of Britain's contribution to the underdeveloped nations. I went for a period of two years and remained for five and a half — until two Burmese students had gained their degrees from Sunderland, and returned to take over from me. From this it may be appreciated that Anne and I developed a considerable affection for the country and its fine people who have been through a difficult stage of their development since the war, and independence in 1948.

The English spoken in Rangoon varies greatly. The young University students are generally too weak in English to understand and assimilate the teaching, which in the sciences must needs be in a foreign tongue, for scientific Burmese is but in its infancy. Now as the method of teaching in schools is by rote, and at University little better (it's a bit late to change by then) some unusual concepts are produced at exam time when the memory is less than perfect. Archie Cook might be interested to hear that the "relationship between the causes and diseases produced the attenuated vaccine that relieved the chicken from fowl smallpox", while on the top floor they would be surprised to know that "peripheral vasodilatation is thought to be one of the early symptoms of sympathetic treatment."

I should never have used that succinct description of the morphine addict—it came back as "The action of the morphine which takes place in Opium is constipated pupil with pinhole point and extrovert action!" — I gradually learned to keep it simple. Simplicity can be taken too far, and may lead to such profundities as "Microscopic objects are measured when they are very little" or "To know it in detail we need further knowledge" — this latter the equivalent of the last ten minutes waffle we all wrote on the last question we attempted, and for which we received no marks!

There were the old howlers which could have been ours — a potable autoclave, starch dried in a ovum, aerobic and anaerobic oxygen and the National Collection of Agricultural Types. To make sure nothing was missed, one student translated ex. aq. as "with exess aqueous water" but my favourite, which might not go down too well in the Deep South was "In the U.S.A. penicillin is made with Coon steep liquor"!!

To be continued.

C. LAVENDER, B.PHARM., M.P.S.

Square Crossword

compiled by SHEILA DREW, B.Pharm., Ph.D., M.P.S.
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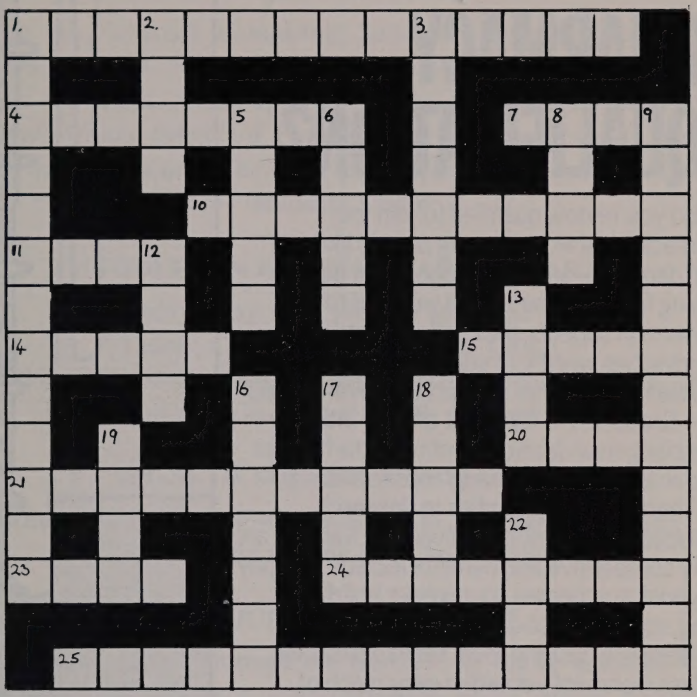

ACROSS

1. Your journal! (14)
4. Can boil a broken steroid for body-building (8)
7. Mr. Habib is hiding a bird (4)
10. A U.N.A. chap staggers about with ice and finds an expectorant drug (11)
11. Sour substance in egg sac I'd found (4)
14. Drab-coloured oleaginous girl (5)
15. For the seeds, take a hundred, a hundred, from east to west, love (5) (and see 6 down for the drink)
20. To give a cruel cut, veterinary style? (4)
21. Basic oxytocic drug, therefore I meet a sailor in a casual way (11)
23. In straw, rye grass made it wrong (4)
24. Tim, Rex and us are shaken before taking the medicines (8)
25. Drawing force was applied after Rex dug about for withdrawal of medically active compound (4, 10)

DOWN

1. Pharmacists' bible? (13)
2. In us, two pairs float, and one of Adam's was appropriated for creative purposes (4)
3. Non-sulphurous ingredient of old-fashioned weekly purge (7)
5. A palp twisted to burdock, Latin style (5) (Martindale may help here)
6. An indefinite one follows two commanding officers for the drink (5)
8. Structural material of 2 down (4)
9. Haphazardly scram with money and end in sin for a purgative (8, 5)
12. Avian constituent of Aspirin and Dover's powders? (4)
13. Religious amount? (4)
16. A nauseating subject from 10 across (7)
17. Naval drink follows south-easterly direction in a blood product (5)
18. Without Latin cross for a nasal spray (5) (Proprietary name)
19. Run a rag round a jelly maker (4)
22. To sue them may include hiding abdominal fat (4)

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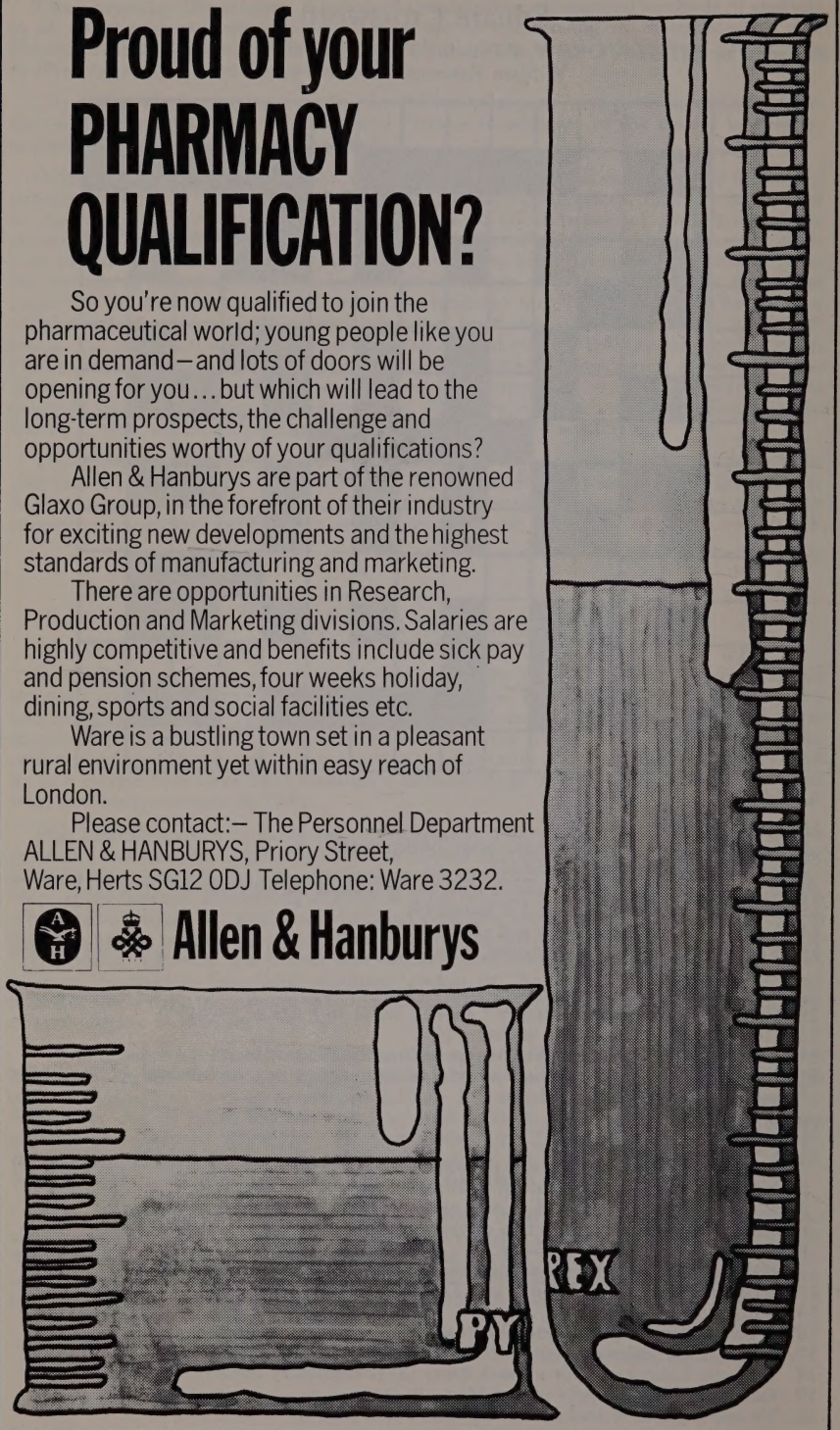

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I would like to thank the advertisers, printers and contributors for all their help and support and offer my apologies to those whose articles submitted have had to be held over for the next edition.

ED.

Solution to Crossword

ACROSS

1 Pharmaceutical
4 Anabolic
7 Ibis
10 Ipecacuanha
11 Acid
14 Olive
15 Cacao
20 Spay
21 Ergometrine
23 Awry
24 Mixtures
25 Drug Extraction

DOWN

1 Pharmacopoeia
2 Ribs
3 Treacle
5 Lappa
6 Cocoa
8 Bone
9 Scammony Resin
12 Dove
13 Mass
16 Emetine
17 Serum
18 Sinex
19 Agar
22 Suet

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